

## ON THREE NEW SPECIES OF INDIAN BRACONIDAE.

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The following descriptions are based on material submitted for determination by Mr. T. Bainbrigge Fletcher, the Imperial Entomologist, Pusa, Bihar.

## Family BRACONIDAE.

Genus **Microplitis**, Först. (1862).**Microplitis similis**, sp. n.

Black; palpi pale; legs testaceous, hind coxae at base and hind femora darker, apical joint of all tarsi fuscous; sides of abdominal segments 1 and 2 testaceous. Wings hyaline, nervures fuscous, stigma unicolorous, testaceous or fusco-testaceous. Antennae of male as long as body, of female one-third shorter, fusco-testaceous, scape rather darker and flagellum darker towards apex. Head and mesothorax granulate; scutellum smoother, dull; metathorax rugose, with indications of a longitudinal medial carina. Abdomen smooth and shining, only first segment feebly striolate; shield of first segment twice as long as medial breadth, slightly narrowed towards base and rounded at apex; second segment without noticeable impressed lines. Spurs of hind tibiae barely one-third as long as metatarsus. Terebra very short. Length,  $2\frac{1}{2}$ –3 mm., expanse, 5–6 mm.

Cocoons pale tan colour, similar to those of *M. spectabilis*, Hal.

Type ♀, in the British Museum; cotypes in the Pusa Collection.

A parasite of *Agrotis ypsilon*, L., from the following localities:—

BIHAR & ORISSA: Pusa, 1 ♂, 4 ♀, 16.iii.1914 (type material); Sabour, 2 ♀ (*H. L. Dutt*). BENGAL: Mokamah, 1 ♂, xii.1911 (*D. N. Pal*), and 2 ♂, 18.xii.1911 (*C. S. Misra*).

Very near *M. spectabilis*, Hal., indeed at first I considered it to be a form of that species, but the invariably unicolorous stigma and feebly longitudinally striolate first segment of the abdomen would appear to warrant its separation. *M. spectabilis*, a common European species, has the stigma determinately pale at the inner angle, the first abdominal segment minutely punctuate, and the hind and middle tarsi fuscous.

**Microplitis eusirus**, sp. n.

Black; palpi pale; legs rufo-testaceous (fore and middle coxae and middle femora except at apex fuscous, hind legs entirely black or blackish excepting trochanters and tarsi towards apex, which are often rufo-fuscous). Sides of first and second abdominal segments lighter in colour. Wings infumated, with the usual dark blotch under the stigma; nervures fuscous; stigma unicolorous, dark fuscous. Antennae stout, rufo-fuscous; scape rufous at base; each joint of flagellum centrally marked with an impressed band which gives the antennae the appearance of having twice as many joints as is actually the case (this character is noticeable in a lesser degree in some of the European species). Eyes pilose. Head and mesothorax densely and minutely punctuate; sutures of the mesothorax deeply and clearly impressed; scutellum rugulose. Metathorax coarsely rugose, with a medial transverse centrally angulated carina, after which the metathorax falls suddenly away (fig. 1, *a*). Abdomen smooth and shining; shield of first segment elongate, three times as long as medial breadth, with parallel sides, slightly widened at base and

truncate at apex (fig. 1, *a*), apical tubercle not prominent. Spurs of hind tibiae pale, less than one-third as long as metatarsus. Terebra very short. Length,  $3\frac{1}{2}$ –4 mm., expanse, 7–8 mm.

Type ♀ in the British Museum; cotype in the Pusa Collection.

BIHAR & ORISSA: Pusa, 1 ♂, 2 ♀ and fragments of 2 others reared from *Achaea janata*, L., 20.ix.1912 (*H. L. Dutt*).

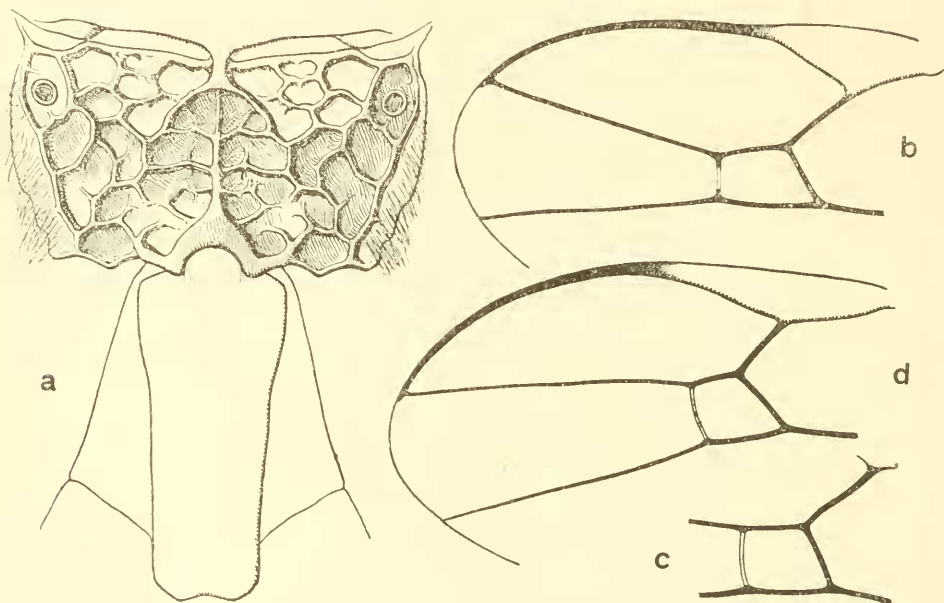


Fig. 1 (*a*). Propodeon and first abdominal tergite of *Microplitis eusirus*, sp. n., ♀; in the propodeon only the major reticulations are shown; the point of view is at right angles to the median carina, and the dorsal surface (unshaded) is seen considerably foreshortened; only the outline of the plate on the 1st tergite is indicated.

(*b*). *Rhogas* (*Heterogamus*) *percurrens*, sp. n., ♀; detail of wing.

(*c*). *Heterogamus dispar*, Curt., ♂; detail of wing.

(*d*). *Heterogamus dispar*, Curt., ♀; detail of wing.

### Genus *Rhogas*, Nees (1818).

The following species is, formally at least, referable to *Heterogamus*, Wesm. (1838), but the difference between the first and second abscissae of the radius is so slight that the insect might with almost equal propriety be placed in *Rhogas*, Nees (fig. 1, *b*). The genotype of *Heterogamus*, Wesm. (*H. dispar*, Curt.) is a rare and extremely distinct species, and quite possibly *Heterogamus* may be a valid genus; but if so, it is not yet properly understood and its real differentiae have not been fully signalled. I have not had before me sufficient material of the genotype to satisfy myself on this point, and for the present treat *Heterogamus* as a subgenus. It can deserve no higher rank than this if its only criterion be the ratio between the first and second radial abscissae.

**Rhogas (Heterogamus) percurrens, sp. n.**

♀.—General colour of antennae,\* body and legs pale ferruginous. The ocellar triangle, but not the ocelli themselves, blackish. Mesonotum with a broad longitudinal faintly infuscated band inside each notaulus and two narrow short ones on the mid lobe anteriorly. Wings with costa, including basal three-fifths of the stigma, concolorous with the body, apical two-fifths of stigma infuscated. Nervures mainly darkened, but the second abscissa of the cubitus very pale. Abdomen a little darkened posteriorly from about the middle of the fourth tergite. Venter all pale; sheath of ovipositor blackish brown. Antenna with joints subequal, about one-third longer than broad. Thorax with transverse sulcus at base of scutellum crenulate with about eight large punctures or pits. Sides of scutellum with seven to eight short, stout, parallel ridges. Metanotum, apart from the usual divisions, smooth. Propodeon, in the type, with the median keel not completely percurrent, reaching back only to about two-thirds; the surface on each side of the keel irregularly rugulose; spiracle moderate, oval, a little over twice its length from the anterior edge.

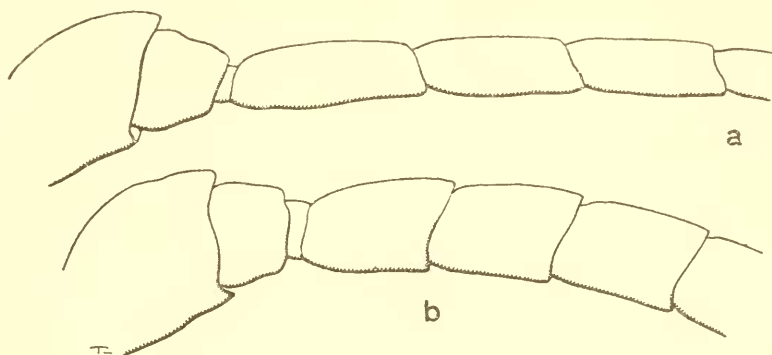


Fig. 2. Basal portion of antenna of (a) *Heterogamus dispar*, Curt.; (b) *Rhogas (Heterogamus) percurrens*, sp. n.

In the wings (fig. 1, b) the second cubital cell is a little, but quite perceptibly, narrowed distally, the second abscissa of the radius being slightly inclined to the third abscissa of the cubitus; first intercubital nervure and second abscissa of the radius subequal, the latter again much longer than the second intercubital. The radius and cubitus strongly divergent distally. The stigma distinctly broad.

Abdomen with the median keel percurrent to the posterior edge of the third tergite, sharply defined throughout its course, though broader on tergite one. Throughout its course the mid keel is flanked by numerous subparallel longitudinal ridges or rugae, these being continuous from tergite to tergite and extending even to the anterior or basal one-third of tergite 4. The first three tergites are rigid, and the sutures (especially the first) deep and distinct. The second suture (between two and three) might almost be described as crenulate, as the sulcus is cut into little pits by the percurrent rugae. Beyond the basal one-third of the fourth tergite the surface is smooth; only the smooth edge of the fifth tergite is visible.

Length just over 5 mm.; alar expanse, 9 mm.

Type a ♀ in the British Museum.

\* In the single antenna preserved, which is complete up to the 23rd joint (21st of the funicle) the colour is uniformly pale ferruginous without any suggestion of banding.

BIHAR & ORISSA: Pusa, a unique ♀ reared from *Achaea janata*, L., 7.x.1912 (C. R. Dutt).

*R. percurrans* sp. n., has a strong but probably superficial resemblance to *Heterogamus dispar*. So far as colour is concerned the resemblance is to the ♂ of that species. In colour, however, *dispar* is notoriously variable. It is possible that the darkening of the thorax and abdomen in *percurrans* owes something to the drying up and discoloration of the underlying musculature of these regions.

*H. dispar* is easily separated from the present insect (*a*) by the basal antennal joints, which are at least twice as long as broad (fig. 2); (*b*) in the wings (fig. 1, *c*, *d*), the radial cell is longer and more acute, the second cubital cell "higher" (♀, ♂), the second abscissa of the radius being just shorter ( $\frac{\circ}{r}$ ) or much shorter (♂) than the first intercubital. The same abscissa is again equal to ( $\frac{\circ}{r}$ ) or much shorter than (♂) the second intercubital. The radius and cubitus are less abruptly divergent distally and the stigma is narrower. In the abdomen the median keel is percurrent to the posterior margin of the second tergite only in the material available for examination.

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